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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/542,057

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Anatol Krozer

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EXAMINER

KIRKLAND III, FREDDIE

ART UNIT

PAPER NUMBER

2855

MAIL DATE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/542,057	<b>Applicant(s)</b> KROZER ET AL.	
	<b>Examiner</b> Freddie Kirkland III	<b>Art Unit</b> 2855	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 July 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 34-83 is/are pending in the application.
- 4a) Of the above claim(s) 1-33 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 34-36, 58-63, 66, 67, 70-73 and 75-83 is/are rejected.
- 7) ☒ Claim(s) 57, 64, 65, 68, 69 and 74 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 July 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>7/11/05, 9/6/05, 7/3/07, 9/4/07</u> . | 6) <input type="checkbox"/> Other: _____  |

## NON-FINAL OFFICE ACTION

### *Claim Objections*

Claims 1, 56, 59, 60, 68, 70, 71, and 73 are objected to because of the following informalities: the claims currently use parenthesis in lines 8 and 11 of claim 1, line 3 of claim 56, line 2 of claim 59, line 2 of claim 60, line 2 of claim 68, lines 9, 14 and 15 of claim 7, lines 8, 10, and 11 of claim 71, line 2 of claim 73. The examiner believes that this causes the claims to be unclear. The examiner believes that the applicant should insert further limitations without parenthesis in the claims if they would like to further define the invention. **Appropriate correction is required.**

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 34, 35, 40, 41, 44, 49, 50, 56, 58, 59, 60, 63, 66, and 70-73 are rejected under 35 U.S.C. 102(b) as being anticipated by Mancosu et al. WO 01/68388.

With respect to claims 34, 59, 60, 63, 70, 71, and 73, Mancosu teaches a system for detecting at least one physical characteristic of an elastic structure (tire 1) subjected to a force under a motion (abstract), said structure being provided with at least one

sensor (7) comprising two electrodes (transmitter and receiver, 903 and 904) and a piezoelectric material (10), which upon deformation generates a charge displacement in the material giving rise to a voltage being directly proportional to the force causing the deformation and convertible to a signal representing said characteristic, and said system comprising at least one detector comprising a receiver for receiving said signal representing said characteristic, wherein said sensor is a passive sensor comprising a passive transmitter in the form of a conductor extending from an end of said sensor, and that a coupling capacitance is obtainable between the conductor and a receiving conductive element thus enabling contactless signal transmission there between (page 20 lines 8-13, page 30 lines 1-17, page 32 lines 6-22, page 43 lines 26-30).

With respect to claim 35, Mancosu teaches wherein said structure is a flat structure (the tire is flat in at least point when in contact with the road, see figures).

With respect to claim 40, Mancosu teaches wherein said structure is a substantially cylindrical rotating structure (figure 1).

With respect to claim 41, Mancosu teaches wherein the structure comprising a tire (figure 1).

With respect to claim 44, Mancosu teaches wherein said sensor, including the transmitter, is arranged on or inside said structure (figure 27).

With respect to claim 49, Mancosu teaches wherein the sensor is arranged in one of or several of a longitudinal, radial or transversal direction of the structure (figure 2).

With respect to claim 50, Mancosu teaches wherein the sensor is arranged to provide one or several of absolute linear velocity or skid characteristic of the structure (page 1 lines 10-25).

With respect to claim 56, Mancosu teaches wherein the sensor deforms during a time period, whereby a part of the structure that contains the sensor is in contact with a surface, whereby during said time period, an electric signal (voltage/current pulse) is created, and a linear velocity of rotation is obtained if the length of the sensor is known by dividing this length by the duration of the voltage/current pulse (page 1, lines 4-25).

With respect to claims 58 and 72, Mancosu teaches wherein the sensor is formed as a cable, a filament, a strip, a foil, a thread, a film, a particle or the like (figure 2).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 35-38, 42, 43, 45-48, 51-53, 61, 62, 76, and 78-82 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mancosu et al. WO 01/68388 in view of Moschel US Patent 5,592,875.

With respect to claims 35-38, 42, 43, 45-48, 51-53, 61, 62, 76, and 78-82, Mancosu fails to teach wherein said structure is a flat structure; wherein said structure is a belt, a conveyer, a wire, a sheet material, a paper sheet, a fabric, a cloth, a printing paper, paper money, or bank notes, and said structure cooperates/interacts with at least one substantially cylindrical rotating body; wherein said at least one substantially cylindrical rotating body is a roll; wherein said structure cooperates/interacts with two rolls; wherein the structure comprises a roll, a roller, a cylinder, a delivery bowl, rubber-covered cylinder, drum, or a hole cylinder; wherein the structure is a roll or a cylinder feeding a sheet material; wherein said structure comprises an oblong structure passing through a pressing arrangement; wherein said structure is a conveyer shaped structure in a nip formed by rolls, and at least one sensor is arranged on the surface of the conveyer shaped structure or substantially within the conveyer shaped structure for detecting the pressure and pressure distribution in the nip between the rolls; wherein the nip is present in a nip roll, a roller press, an Yankee machine, a shoe press, or a smoothing coating machine of a paper-manufacturing machine; wherein the characteristic(s) detected is/are the nip force, nip pressure/pressure distribution and/or nip width of the rolls in a nip roll press; wherein the roll(s) is/are arranged in a paper-manufacturing machine, said structure is a belt or a conveyer, and sensors are arranged inside the material of the belt, either in the longitudinal and/or transverse

direction of the belt; at least one substantially cylindrical rotating body feeding a sheet material for detecting at least one physical characteristic of said sheet material; wherein said sensor is used in a paper-manufacturing machine for detecting a characteristic of a belt or a conveyer cooperating/interacting with at least one substantially cylindrical rotating body feeding said belt, said sensor(s) being integrated into the belt/conveyer, either in the longitudinal and/or transverse direction of the belt; wherein said sheet material is a conveyer shaped structure in a nip formed by rolls, said sensor being arranged on the surface of the conveyer shaped structure or substantially within the conveyer shaped structure for detecting the pressure and pressure distribution in the nip between the rolls; wherein the nip is present in a nip roll, a roller press, an Yankee machine, a shoe press, or a smoothing coating machine of a paper-manufacturing machine; and wherein the characteristic(s) detected is/are the nip force, nip pressure and/or nip width of the rolls in a nip roll press.

Moschel teaches rolls (1 and 12) having means for determining pressure distribution on a web (figure 4) comprising: a helical sensor (6) which preferably comprises a piezoelectric film, a the web is transported through the nip (14) by resting on the paper machine fabric (16) which surrounds the sensor, a signal conditioning unit (21) which transmits signals representing the pressure to the processing unit (23), the link between the signal conditioning unit (21) and the signal processing unit (23) can be a wireless transmission (col. 3 lines 15-67).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the nip pressure measuring system from Moschel in

the monitoring system of Mancosu in order to provide an invention to enable the operator to easily and accurately detect uneven pressure distribution exhibited by a roll in a nip press (Moschel col. 2 lines 25-30).

Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mancosu et al. WO 01/68388 in view of Moschel US Patent 5,592,875 and further in view of Bentele et al. US Patent 5,908,537.

With respect to claims 39, Mancosu in view of Moschel fails to teach wherein said structure cooperates/interacts with three rolls.

Bentele teaches a three roll press (see figure 1A).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the three roll press of Bentele in the invention of Mancosu in view of Moschel in order to provide a roll press which makes it possible to achieve as uniform as possible a press nip between the backing roll and at least one additional roll, even without sag control (col. 1 lines 35-39).

Claims 54, 55, and 83 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mancosu et al. WO 01/68388 in view of Moschel US Patent 5,592,875 and further in view of Hatanaka et al. US Patent 5,565,219.

With respect to claims 54, 55, and 83, Mancosu in view of Moschel fails to teach wherein the rolls are arranged in a banking paper application, said structure is bank



notes or paper money, and the sensor is arranged as a strip on the surface of the bank note/paper money or substantially within the bank note/paper money.

Hatanaka teaches a bank quantity adjusting device comprising a pressure sensor (13) for detecting a bank pressure between an outlet (7) of an extruder body (1) provided with a roller die (2).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the Hatanaka bank quantity device in the invention of Mancosu in view of Moschel in order to provide a bank quantity adjusting device for an extruder which can accurately control a bank quantity regardless of a difference in composition of a material to be extruded (col. 1 lines 51-56).

Claims 67 and 75 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mancosu et al. WO 01/68388 in view of Maenpaa US Patent 6,910,376.

With respect to claims 67 and 75, Mancosu fails to teach wherein the piezoelectric material is polyvinylidenefluoride (PVDF).

Maenpaa teaches a measurement method and system in the manufacture of paper or paperboard comprising piezoelectric PVDO films (col. 5 lines 48-55).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the material as taught by Maenpaa in the invention of Mancosu in order to measure the effect of changes in the machine speeds as well as the wearing of the belts and roll coatings on the nip pressures (col. 5 lines 5-10).

***Allowable Subject Matter***

Claims 57, 64, 65, 68, 69, and 74 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance:

Claim 57 is found to be allowable over the prior art because the prior art does not disclose or suggest the claimed " wherein additional information is provided by a frequency at which pulses occur due to the rotation of the structure, both related to each other and to a linear velocity of the structure motion, and a difference in linear velocity of the structure calculated from the pulse duration and from the frequency of structure rotation varying in time indicates skid" in combination with the remaining claim steps as set forth in claim 57.

Claims 64 and 74 are found to be allowable over the prior art because the prior art does not disclose or suggest the claimed "wherein the transmitting antennas are spaced apart in such a way that minimum or null electric field lines are between the transmitting antennas, and the main part of the electric field lines are between each pair of transmitting and receiving antennas" in combination with the remaining claim steps as set forth in claims 64 and 74.

Claim 65 is found to be allowable over the prior art because the prior art does not disclose or suggest the claimed "wherein the extension of the receiving antennas is larger than the extension of the transmitting antennas" in combination with the remaining claim steps as set forth in claim 65.

Claim 68 is found to be allowable over the prior art because the prior art does not disclose or suggest the claimed "wherein a differential signal between a loaded sensor and an unloaded sensor is used" in combination with the remaining claim steps as set forth in claim 68.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Freddie Kirkland III whose telephone number is 571-272-2232. The examiner can normally be reached on Monday through Friday 8am-5pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lefkowitz can be reached on (571) 272-2180. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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11/10/07

  
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